

We claim:

- 1           1.       A network receiving agent operable in a Scalable Interface system, the  
2 network receiving agent comprising:  
3           a sensor designed to receive information about an environment;  
4           an environment setting describing the status of a device in the environment; and  
5           an updater designed to update the environment setting based on data input to the  
6 sensor.
- 1           2.       A network receiving agent according to claim 1, wherein the sensor is  
2 designed to receive a change in the availability of the device.
- 1           3.       A network receiving agent according to claim 2, wherein the updater is  
2 designed to update the environment setting to reflect the change in the availability of the  
3 device.
- 1           4.       A network receiving agent according to claim 1, the network receiving agent  
2 further comprising a receiver designed to receive an inquiry from a network lurking agent.
- 1           5.       A network receiving agent according to claim 4, wherein the receiver is  
2 designed to respond to the inquiry from the network lurking agent based on the environment  
3 setting.
- 1           6.       A network receiving agent according to claim 4, wherein the receiver is  
2 designed to access the device in the environment if the device is available.
- 1           7.       A network receiving agent according to claim 6, wherein the receiver is  
2 designed to access the environment setting to determine the availability of the device.
- 1           8.       A network receiving agent according to claim 4, wherein the receiver is  
2 designed to access an active device in the environment.
- 1           9.       A network receiving agent according to claim 4, the network receiving agent  
2 further comprising:

3 a history store designed to store information about the inquiry, the information about  
4 the inquiry including a source of the inquiry; and  
5 a message store designed to store a message from the source of the inquiry when the  
6 device is not available.

1 10. A network receiving agent according to claim 1, wherein the updater is  
2 designed to update the environment setting to reflect the availability of a user.

1 11. A network lurking agent operable in a Scalable Interface system, the network  
2 lurking agent comprising:  
3 a lurker designed to visit an environment within the Scalable Interface system; and  
4 an inquirer designed to inquire as to the availability of a device in the environment.

1 12. A network lurking agent according to claim 11, the network lurking agent  
2 further comprising a sender designed to send a message when the inquiry is refused.

1 13. A network lurking agent according to claim 11, the network lurking agent  
2 further comprising a receiver designed to receive a message.

1 14. A Scalable Interface system designed to support network lurking, the Scalable  
2 Interface system comprising:  
3 a network receiving agent designed to receive an inquiry about the availability of a  
4 device in an environment; and  
5 a network lurking agent designed to send the inquiry to the network receiving agent.

1 15. A Scalable Interface system according to claim 14, wherein the network  
2 lurking agent is designed to place the inquiry in a Space in the Scalable Interface system.

1 16. A Scalable Interface system according to claim 15, wherein the Scalable  
2 Interface system notifies the network receiving agent about the inquiry when the network  
3 lurking agent places the inquiry in the Space.

1           17.     A Scalable Interface system according to claim 14, wherein the network  
2 receiving agent is designed to store an environment setting in a Space in the Scalable  
3 Interface system.

1           18.     A Scalable Interface system according to claim 14, wherein the network  
2 receiving agent and the network lurking agent are designed to open devices as a result of the  
3 inquiry, the devices enabling communication.

1           19.     A Scalable Interface system according to claim 14, wherein;  
2 the network lurking agent is designed to send a message when the inquiry is refused;  
3 and  
4 the network receiver is designed to refuse the inquiry and to receive the message from  
5 the network lurking agent.

1           20.     A method for using a network receiving agent to update an environment  
2 setting in a Scalable Interface system, the method comprising:  
3 receiving sensor input from a device in an environment; and  
4 updating the environment setting based on the sensor input.

1           21.     A method according to claim 20, wherein updating the environment setting  
2 includes updating the environment setting to reflect the availability of the device.

1           22.     A method according to claim 20, wherein updating the user preference setting  
2 includes updating the environment setting to reflect the availability of a user.

1           23.     A method according to claim 20, the method further comprising;  
2 receiving an inquiry; and  
3 sending a message in response to the inquiry.

1           24.     A computer-readable medium containing a program to use a network receiving  
2 agent to update an environment setting in a Scalable Interface system on a computer system,  
3 the program being executable on the computer system to implement the method of claim 20.

1           25.    A method for using a network lurking agent to electronically lurk to an  
2 environment in a Scalable Interface system, the method comprising:  
3           lurking to the environment; and  
4           inquiring as to the availability of the environment.

1           26.    A method according to claim 25, wherein inquiring as to the availability of the  
2 environment includes inquiring as to the availability of a user in the environment.

1           27.    A method according to claim 25, the method further comprising responding to  
2 the inquiry by a network receiving agent.

1           28.    A method according to claim 27, wherein responding to the inquiry includes  
2 accessing devices by the network lurking agent and the network receiving agent to enable  
3 communication.

1           29.    A method according to claim 27, wherein responding to the inquiry includes:  
2 refusing the inquiry by the network receiving agent;  
3 sending a message from the network lurking agent to the network receiving agent; and  
4 storing the message for later access from the environment.

1           30.    A method according to claim 27, wherein responding to the inquiry includes:  
2 sending a message from the network receiving agent to the network lurking agent; and  
3 receiving the message at the network lurking agent.

1           31.    A computer-readable medium containing a program to use a network lurking  
2 agent to electronically lurk to a location on a computer system, the program being executable  
3 on the computer system to implement the method of claim 25.

1           32.    An apparatus for using a network receiving agent to update an environment  
2 setting in a Scalable Interface system, the apparatus comprising:  
3           means for receiving sensor input from a device in an environment; and  
4           means for updating the environment setting based on the sensor input.

1           33.     An apparatus according to claim 32, wherein the means for updating includes  
2 means for updating the environment setting to reflect the availability of the device.

1           34.     An apparatus according to claim 32, wherein the means for updating includes  
2 means for updating the environment setting to reflect the availability of a user.

1           35.     An apparatus according to claim 32, the apparatus further comprising;  
2 means for receiving an inquiry; and  
3 means for sending a message in response to the inquiry.

1           36.     An apparatus for using a network lurking agent to electronically lurk to an  
2 environment in a Scalable Interface system, the apparatus comprising:  
3 means for lurking to the environment; and  
4 means for inquiring as to the availability of the environment.

1           37.     An apparatus according to claim 36, wherein the means for inquiring includes  
2 means for inquiring as to the availability of a user in the environment.

1           38.     An apparatus according to claim 36, the apparatus further comprising means  
2 for responding to the inquiry by a network receiving agent.

1           39.     An apparatus according to claim 38, wherein the means for responding  
2 includes means for accessing devices by the network lurking agent and the network receiving  
3 agent to enable communication.

1           40.     An apparatus according to claim 38, wherein the means for responding  
2 includes:  
3 means for refusing the inquiry by the network receiving agent;  
4 means for sending a message from the network lurking agent to the network receiving  
5 agent; and  
6 means for storing the message for later access from the environment.

1           41.    An apparatus according to claim 38, wherein the means for responding  
2 includes:  
3           means for sending a message from the network receiving agent to the network lurking  
4 agent; and  
5           means for receiving the message at the network lurking agent.